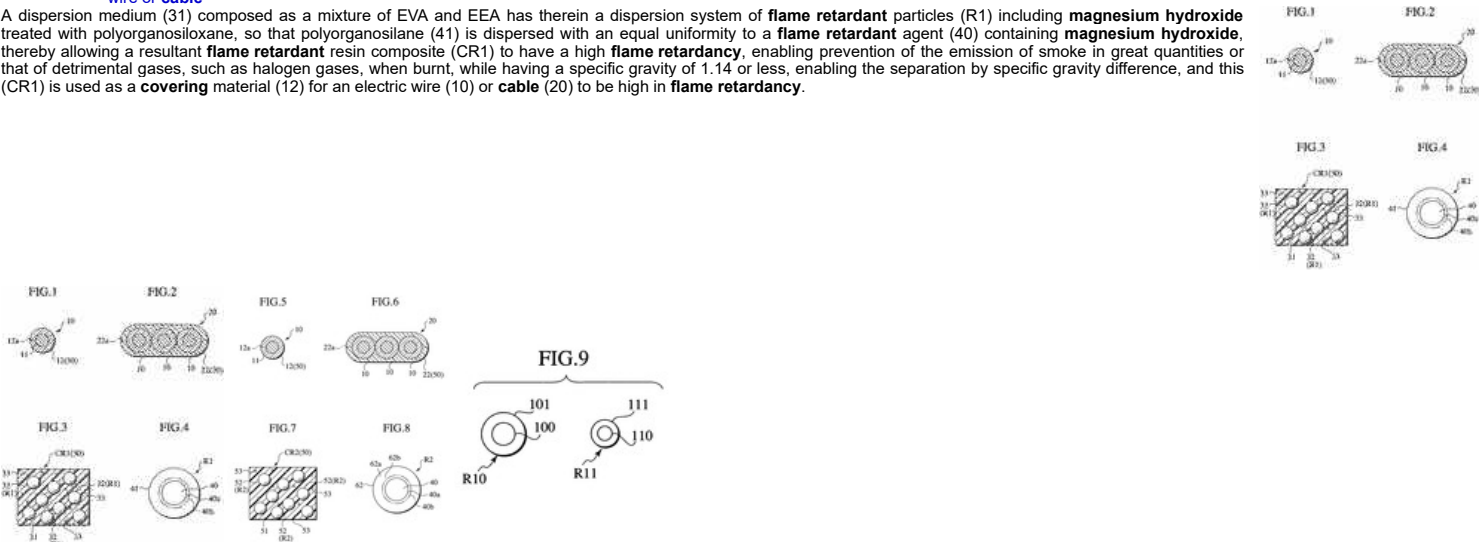


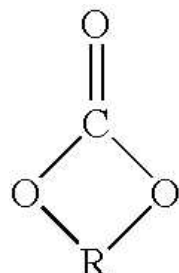
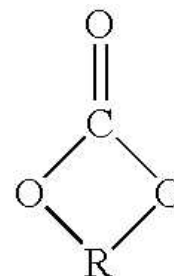
1598 results for (CABLE AND CONDUCTOR AND (LAYER? OR SHEATH? OR COVERING) AND INSULATION AND MELAMINE AND ((flame 1W retard+) or (metal+ 1W oxide?) or (metal+ 1W hydroxide) or ((iron or magnesium or aluminum or aluminium or zinc) 3W (oxide or hydroxide))))/TI/AB/IW/CLMS/DESC/ODES - Collection: FAMPAT

#	 Title	Publication number	1st app. date	Applicant/Assignee	1st publ. date	Publ. date
1.	Flame retardant ethylene family resin composite and flame retardant electric wire or cable	EP1422262	2002-11-19	FUJIKURA*	2004-05-26	2004-05-26

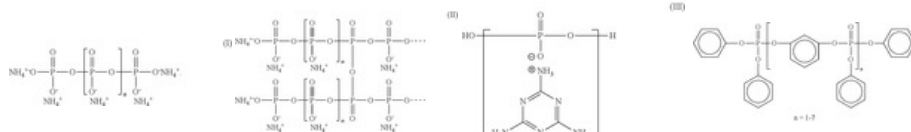
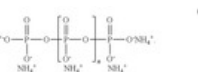
A dispersion medium (31) composed as a mixture of EVA and EEA has therein a dispersion system of **flame retardant** particles (R1) including **magnesium hydroxide** treated with polyorganosiloxane, so that polyorganosilane (41) is dispersed with an equal uniformity to a **flame retardant** agent (40) containing **magnesium hydroxide**, thereby allowing a resultant **flame retardant** resin composite (CR1) to have a high **flame retardancy**, enabling prevention of the emission of smoke in great quantities or that of detrimental gases, such as halogen gases, when burnt, while having a specific gravity of 1.14 or less, enabling the separation by specific gravity difference, and this (CR1) is used as a **covering** material (12) for an electric wire (10) or **cable** (20) to be high in **flame retardancy**.



The present invention relates to **flame retardant** thermoplastic polyurethane (TPU) compositions comprising **melamine** cyanurate at high levels as the only organic **flame retardant** additive, while maintaining high tensile strength of the TPU compositions. The TPU compositions are useful for applications where low **flame** properties are desirable, such as wire and **cable** applications, blown film, molding applications, and the like. This invention also relates to process to produce the TPU compositions in a twin screw extruder and process to produce wire and **cable** jacketing.



The present invention relates to a formulation comprising at least one thermoplastic polyurethane polymer and a **flame retardant** composition, the **flame retardant** composition comprising i) at least one **metal** or **metalloid oxide** particle selected from **magnesium oxide**, **magnesium hydroxide**, silicon **oxide**, or **aluminium oxide**; ii) at least one phosphate component selected from the group comprising ammonium polyphosphate (APP), **melamine** phosphate, **melamine** pyrophosphate and **melamine** polyphosphate or mixture thereof, and iii) at least one oligomeric phosphate ester.



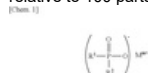
A fire-**retardant** adhesive and a fire-**retardant** adhesive film, which are suitable for producing flat cables using a non-halogen **flame-retardant** and have fire-**retardant** properties rivaling those of halogen **flame-retardants** while maintaining good electrical insulating properties, comprises (A) a polyester resin, (B) a nitrogen-containing organic **flame-retardant** and (C) a boron compound.

Halogen-free, **flame-retardant** thermoplastic polyester elastomer (TPE-E) compositions that include at least one thermoplastic polyester elastomer, at least one low-melting, phosphorus-based **flame retardant** having a melting temperature no higher than 150°, and a blend of solid intumescent **flame retardants** comprising a phosphorus-based, organic salt **flame retardant** and a nitrogen-based organic **flame retardant** are provided. The presence of the low-melting, phosphorus-based **flame retardant** renders the compositions more resistant to scratch-whitening.

Chemical name	Chemical structure	Phosphorus content	Remarks
Flame retardant 1		100%	Highly effective
Flame retardant 2		100%	Highly effective
Flame retardant 3		100%	Highly effective
Flame retardant 4		100%	Highly effective
Flame retardant 5		100%	Highly effective
Flame retardant 6		100%	Highly effective
Flame retardant 7		100%	Highly effective
Flame retardant 8		100%	Highly effective
Flame retardant 9		100%	Highly effective
Flame retardant 10		100%	Highly effective

Chemical name	Chemical structure	Phosphorus content	Remarks
Flame retardant 1		100%	Highly effective
Flame retardant 2		100%	Highly effective
Flame retardant 3		100%	Highly effective
Flame retardant 4		100%	Highly effective
Flame retardant 5		100%	Highly effective
Flame retardant 6		100%	Highly effective
Flame retardant 7		100%	Highly effective
Flame retardant 8		100%	Highly effective
Flame retardant 9		100%	Highly effective
Flame retardant 10		100%	Highly effective

Provided is a **flame-retardant** resin composition that can achieve both mechanical properties and **flame retardancy** and satisfy stringent heat resistance requirement such as heat resistance with a **conductor** attached, and an insulated wire, a flat **cable**, and a molded article made using the **flame-retardant** resin composition. The **flame-retardant** resin composition contains a thermoplastic resin, a polyfunctional monomer, and an organic phosphorus-based **flame retardant**. The thermoplastic resin contains 5% by mass or more of a resin having a carbon-carbon unsaturated bond or a resin having a carbonyl group relative to the entire thermoplastic resin. The organic phosphorus-based **flame retardant** is at least one selected from the group consisting of a **metal** phosphinate, a **melamine** phosphate compound, an ammonium phosphate compound, and a polyphosphazene compound obtained by ring-opening polymerization of cyclophosphazene. The content of the organic phosphorus-based **flame retardant** is 5 to 100 parts by mass relative to 100 parts by mass of the thermoplastic resin and the content of the polyfunctional monomer is 1 to 20 parts by mass relative to 100 parts by mass of the thermoplastic resin.

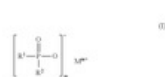


Halogen-free, **flame-retardant** thermoplastic compositions that include a styrenic block copolymer, a low-melting, phosphorus-based **flame retardant** having a melting temperature no higher than 170° C, and a blend of solid intumescent phosphorus and nitrogen-containing **flame retardants**. The blend of solid intumescent **flame retardants** include at least two phosphorous and nitrogen-containing phosphoric acid salts that synergistically enhance the **flame-retardant** properties of the compositions relative to compositions that include other **flame-retardant** packages.

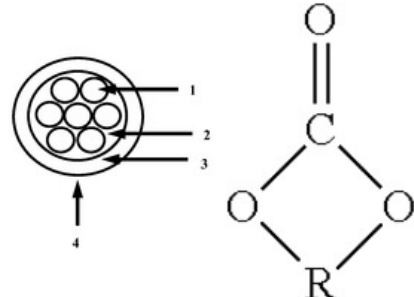
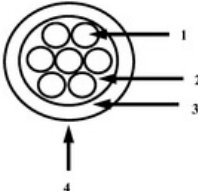
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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

Provided are a non-halogen **flame-retardant** resin composition that has as a main component a polyolefin-based resin as a base polymer, the resin composition passing a combustion test, satisfying a 150°C rating, and demonstrating exceptional heat resistance and thermal aging resistance; and an insulating wire and a tube in which the non-halogen **flame-retardant** resin composition is used. The non-halogen **flame-retardant** resin composition contains (A) a base polymer including 90 mass % or more of a mixture of a polyolefin-based resin and a styrene-based elastomer, (B) a **metal phosphinate**, and (C) a nitrogen-based **flame retardant**; and is used as an insulating coating **layer**. The insulating coating **layer** and the tube are preferably crosslinked by being irradiated using ionizing radiation.



A non-halogen **flame retardant** thermoplastic polyurethane composition containing: a) an organic non-halogenated **flame retardant** package which contains non-reacted components, i) an organic phosphate compound which is **melamine** free, ii) a mixture of an organic phosphate in combination with an organic phosphoric acid; and iii) a **zinc oxide**, b) a stabilizer, c) optionally inorganic **flame retardant** components, and d) optionally non-**flame retardant** additives, resulting in a TPU composition with excellent tensile strength and improved high **flame** performance and low smoke properties.

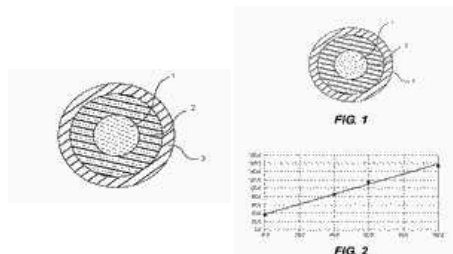
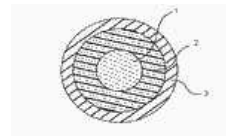


Disclosed is a halogen-free, **flame retardant** thermoplastic resin composition based on polypropylene and one or more thermoplastic elastomers with an organic nitrogen- and/or phosphorus-based intumescent **flame retardant** comprising a piperazine component. The composition is processed easily to make a wire and **cable sheath** exhibiting a balance of high **flame retardancy**, good flexibility, high wet electrical resistance and excellent heat deformation properties, and which passes the VW-I **flame retardancy** test, the UL1581 heat deformation test at 150 °C and the wet electrical resistance test, and also exhibits good tensile and flexibility properties. Also disclosed is a wire and **cable sheath** made from the composition.



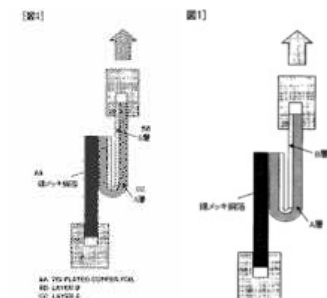
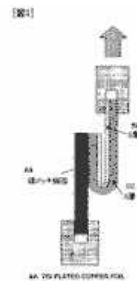
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|-----|---|--------------|------------|---|------------|------------|
| 12. | Low-smoke self-extinguishing cable and flame-retardant composition comprising natural magnesium hydroxide | WO2007049090 | 2005-10-27 | PIRELLI CAVI & SISTEMI
PRIZMIAN KAVI EH SISTEMI EHNER
PRYSMIAN* | 2007-05-03 | 2007-05-03 |
|-----|---|--------------|------------|---|------------|------------|

The present invention relates to cables, in particular for low-voltage electrical energy distribution or for telecommunications, these cables having low-smoke self-extinguishing properties, and to the flame-retardant compositions used therein.



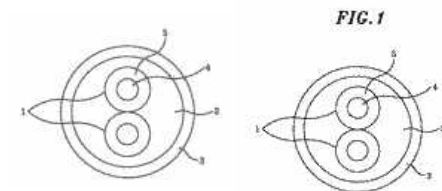
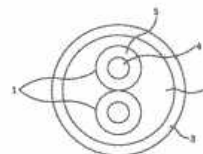
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|-----|--|--------------|------------|----------------------|------------|------------|
| 13. | Flame-retardant polyester resin composition and flame-retardant laminate | WO2009116302 | 2008-09-29 | MITSUBISHI PLASTICS* | 2009-09-24 | 2009-09-24 |
|-----|--|--------------|------------|----------------------|------------|------------|

Disclosed is a flame-retardant laminate exhibiting excellent flame retardancy, mechanical characteristics and surface characteristics, without containing a halogen compound and the like. A flexible flat cable is also disclosed. The flame-retardant laminate has a layer B on at least one side of a layer A which is mainly composed of a mixture of melamine and a polyester resin (A) having a glass transition temperature of not more than 30°C and a crystal melting enthalpy ΔH_m of not more than 40 J/g. The flame-retardant laminate is characterized in that the melamine content is 10-80% by mass relative to the total mass of the layer A. A flexible flat cable containing the flame-retardant laminate is also disclosed.

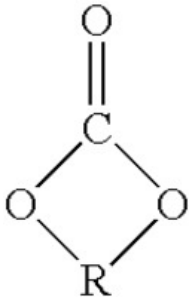
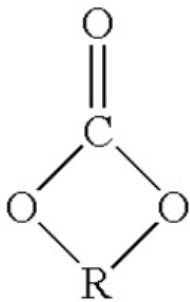


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| 14. | Nonhalogenated flame resistant cable | WO2005013291 | 2004-07-27 | SUMITOMO ELECTRIC INDUSTRIES* | 2005-02-10 | 2005-02-10 |
|-----|--------------------------------------|--------------|------------|-------------------------------|------------|------------|

A nonhalogenated flame resistant cable that has excellent flexibility and abrasion resistance, exhibiting fusion bonding capability to mold materials, such as PBT and nylon, and excellent flame resistance, preferably having striking wear and abrasion resistance. In particular, there is provided a nonhalogenated flame resistant cable characterized in that it includes an insulating wire, an inner sheath and an outer sheath, the inner sheath comprised of a polyolefin resin or a resin composition composed mainly of the resin, the outer sheath comprised of a product of crosslinking of a mixture of thermoplastic polyurethane elastomer and thermoplastic polyester elastomer or a resin composition composed mainly of the mixture, the outer sheath containing at least one flame retardant selected from among metal hydroxides and nitrogenous flame retardants in an amount of 3 to 35 parts by weight per 100 parts by weight of the crosslinking product of resin composition. Further, there is preferably provided a nonhalogenated flame resistant cable wherein the inner sheath contains a specified flame retardant in an amount of specified range.



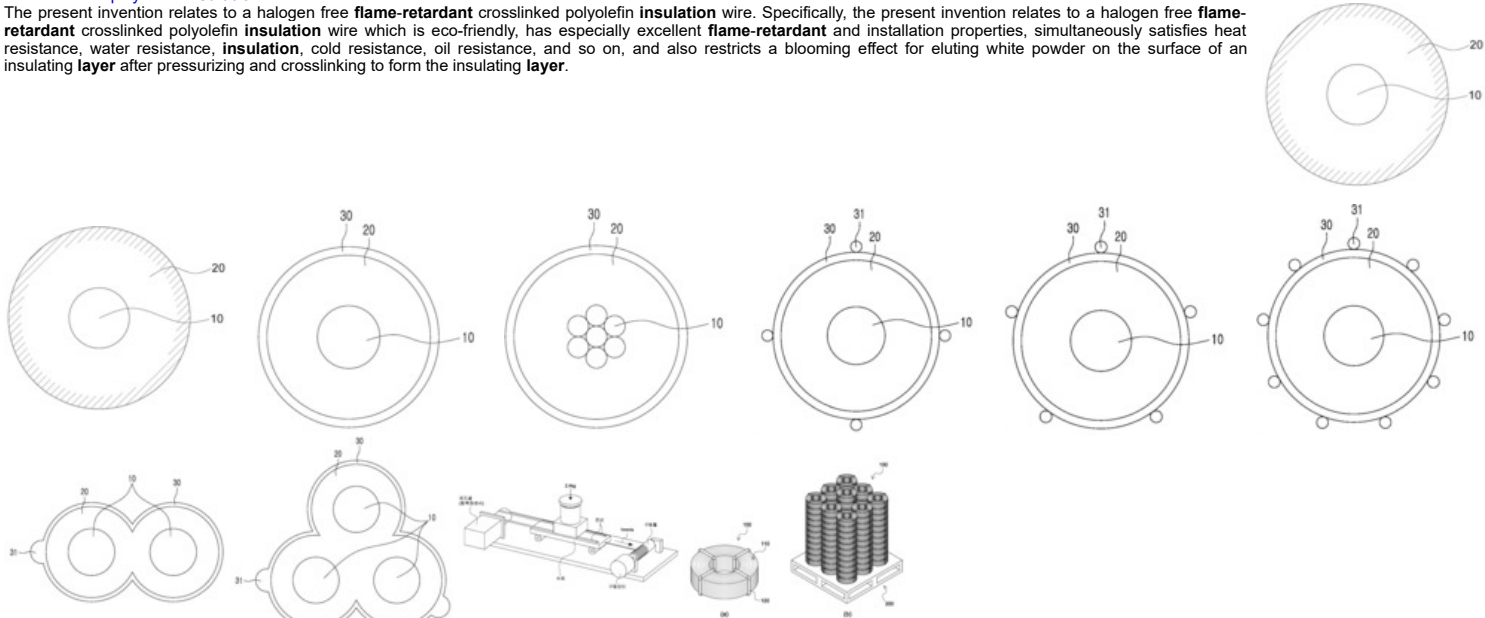
15.	Flame-retardant resin, composition thereof, and process for producing the same A flame-retardant resin composition comprising a phosphazene flame retardant and a polyester resin, wherein the flame retardant is bonded to the molecules of the polyester resin via the ester group thereof, can retain a high flame retardance for a prolonged term with little or no vaporization with time and is excellent in flame retardance , impact resistance, properties and processability.	WO9946314	1998-03-13	OTSUKA* OTSUKA CHEMICAL	1999-09-16	1999-09-16
16.	Non halogen flame retardant thermoplastic polyurethane The invention relates to a non-halogenated flame retardant package comprising: (a) a first non-halogenated flame retardant component comprising a phosphinate compound; (b) a second non-halogenated flame retardant component comprising an organic phosphate compound; and (c) a third non-halogenated flame retardant component comprising a polyhydric alcohol and a flame retardant thermoplastic polyurethane composition comprising said package.	WO2006121549	2006-04-10	LUBRIZOL ADVANCED MATERIALS* NOVEON SOL LE YELLOWTAIL ADVANCED MATERIALS	2006-11-16	2006-11-16
17.	Halogen-free flame-retardant polymer composition comprising piperazine based intumescent flame retardant Halogen-free flame-retardant polymer composition, preparation method and use thereof are provided. The composition comprises a propylene polymer, a thermoplastic elastomer, and an intumescent flame retardant system comprising a piperazine component. The obtained halogen-free flame-retardant polymer composition is used to make wire or cable sheath.	CA2839031	2011-06-21	DOW GLOBAL TECHNOLOGIES*	2012-12-27	2012-12-27



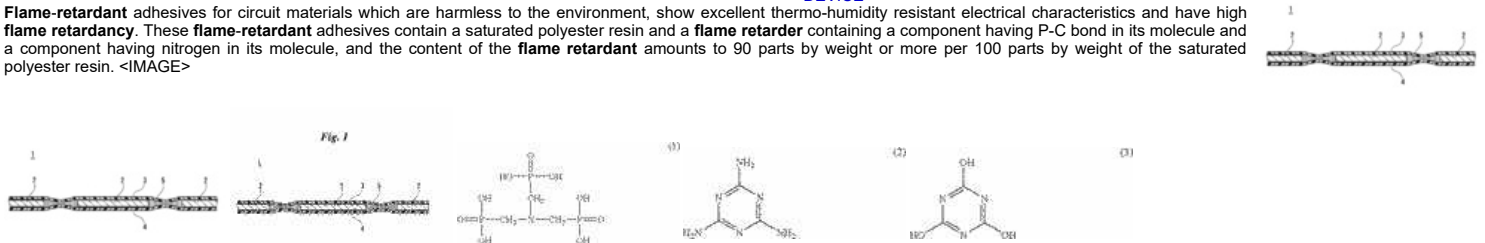
Halogen-free **flame-retardant** polymer composition, preparation method and use thereof are provided. The composition comprises a propylene polymer, a thermoplastic elastomer, and an intumescent **flame retardant** system comprising a piperazine component. The obtained halogen-free **flame-retardant** polymer composition is used to make wire or cable sheath.

$$\rho_0 = 2.72 \times \frac{L \times B}{h^2}$$

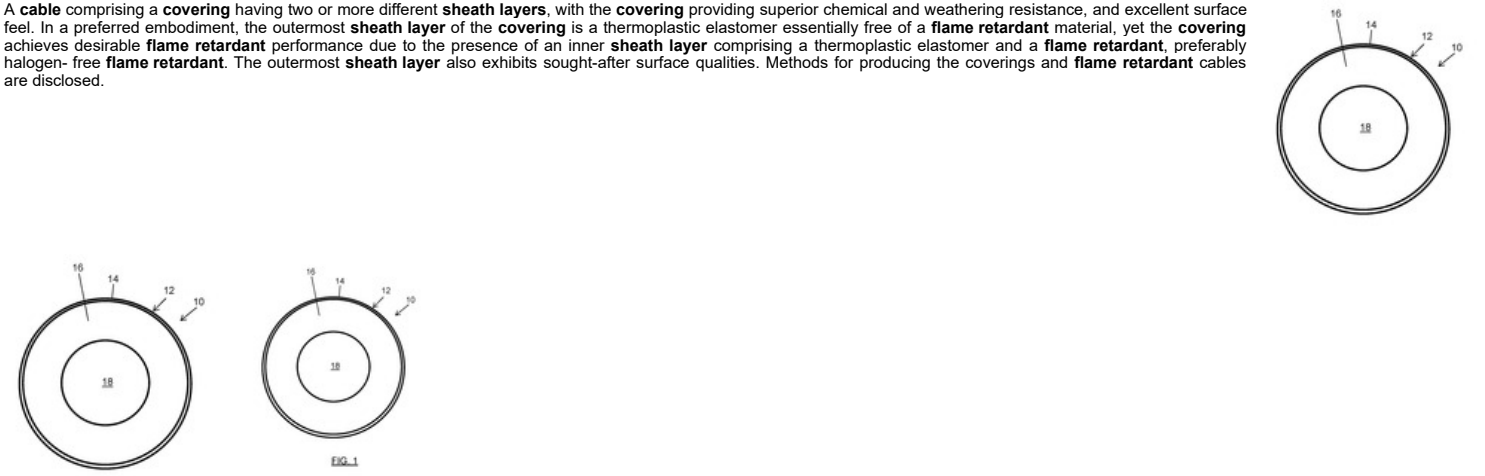
The present invention relates to a halogen free **flame-retardant** crosslinked polyolefin **insulation** wire. Specifically, the present invention relates to a halogen free **flame-retardant** crosslinked polyolefin **insulation** wire which is eco-friendly, has especially excellent **flame-retardant** and installation properties, simultaneously satisfies heat resistance, water resistance, **insulation**, cold resistance, oil resistance, and so on, and also restricts a blooming effect for eluting white powder on the surface of an insulating **layer** after pressurizing and crosslinking to form the insulating **layer**.



Flame-retardant adhesives for circuit materials which are harmless to the environment, show excellent thermo-humidity resistant electrical characteristics and have high **flame retardancy**. These **flame-retardant** adhesives contain a saturated polyester resin and a **flame retarder** containing a component having P-C bond in its molecule and a component having nitrogen in its molecule, and the content of the **flame retardant** amounts to 90 parts by weight or more per 100 parts by weight of the saturated polyester resin. <IMAGE>



A cable comprising a **covering** having two or more different **sheath layers**, with the **covering** providing superior chemical and weathering resistance, and excellent surface feel. In a preferred embodiment, the outermost **sheath layer** of the **covering** is a thermoplastic elastomer essentially free of a **flame retardant** material, yet the **covering** achieves desirable **flame retardant** performance due to the presence of an inner **sheath layer** comprising a thermoplastic elastomer and a **flame retardant**, preferably halogen- free **flame retardant**. The outermost **sheath layer** also exhibits sought-after surface qualities. Methods for producing the coverings and **flame retardant** cables are disclosed.



Disclosed are **flame retardant** organosilicon compositions, wherein the organosilicon compositions comprise residues derived from (a) polycyclic polyene compounds and (b) residues derived from cyclic polysiloxanes, tetrahedral siloxysilanes and linear poly(organohydrosiloxane)s. Preferably the compositions contain **flame retardants**, such as a phosphorus containing or halogen containing **flame retardant**, which may be microencapsulated. Also disclosed are processes for making such compositions and articles made from such compositions.



The present invention is a **flame-retardant** polyester film including resin **layers** laminated on both surfaces of a polyester film, wherein the resin **layer** satisfies 15 % $\square$ (Wc 1 - Wc 2)/Wc 0 $\times$ 100 % $\square$ 99 (where Wc 0 represents the weight of the resin **layer**, Wc 1 represents the weight of the resin **layer** after the temperature thereof is raised from 25°C to 600°C in air, and Wc 2 represents the weight of the resin **layer** after the temperature thereof is raised from 25°C to 800°C in air), and has a non-flammable gas generating rate of 3 to 40 percent over the range of 180°C to 450°C. The present invention provides a **flame-retardant** polyester film having an excellent **flame retardancy**, and adhesive tapes, flexible printed circuits, a membrane switch, a film heater, and a flat **cable**, each including the **flame-retardant** polyester film.

